

LISTING OF THE CLAIMS

A listing of all claims and their current status in accordance with 37 C.F.R. § 1.121(c) is provided below.

1. (previously presented) A process for producing solid polymer particles, the process comprising:
 - polymerizing, in a loop reaction zone, at least one monomer to produce a fluid slurry comprising solid polymer particles in a liquid medium;
 - withdrawing substantially continuously a portion of the slurry, comprising withdrawn liquid medium and withdrawn solid polymer particles, as an intermediate product of the process;
 - passing the intermediate product through a heated conduit, producing a concentrated intermediate product and a vapor; and
 - separating the vapor from the concentrated intermediate product by centrifugal force in a cyclone.
- 2-14. (cancelled)
15. (previously presented) The process of claim 1, comprising maintaining a concentration of solid polymer particles in the slurry in the zone of greater than 40 weight percent.
- 16-27. (cancelled)

28. (previously presented) A process, comprising:

polymerizing at least one monomer in a reactor to produce a slurry comprising solid polymer particles and a liquid;

withdrawing substantially continuously via a valve a discharge slurry from the reactor, the discharge slurry comprising withdrawn solid polymer particles and withdrawn liquid, wherein the discharge slurry has a solids concentration greater than the solids concentration of the slurry in the reactor;

modulating the valve to adjust a flow rate of the discharge slurry to facilitate control of a pressure in the reactor;

passing the discharge slurry from the reactor through a heated conduit to vaporize at least a majority of the liquid in the discharge slurry; and

separating vapor from the heated discharge slurry via centrifugal forces.

29. (previously presented) The process of claim 28, wherein separating vapor comprises passing the heated discharge slurry through a cyclone.

30. (previously presented) The process of claim 29, comprising discharging the separated vapor from a top portion of the cyclone.

31. (previously presented) The process of claim 29, comprising discharging a polymer stream comprising solid polymer particles and residual hydrocarbon from a bottom portion of the cyclone.

32. (cancelled).

33. (previously presented) The process of claim 31, comprising passing the polymer stream from the bottom portion of the cyclone to a low-pressure flash tank.

34-35. (cancelled).

36. (previously presented) The process of claim 1, comprising condensing at least a portion of the separator vapor without compressing the separator vapor.

37. (previously presented) A process, comprising:
polymerizing at least one monomer in a reactor to produce a slurry comprising solid polymer particles and a liquid;
withdrawing substantially continuously via a valve a discharge slurry from the reactor, the discharge slurry comprising withdrawn solid polymer particles and withdrawn liquid, wherein the discharge slurry has a solids concentration greater than the solids concentration of the slurry in the reactor;
modulating the valve to adjust a flow rate of the discharge slurry to facilitate control of a pressure in the reactor;
passing the discharge slurry from the reactor through a heated conduit to vaporize at least a majority of the liquid in the discharge slurry; and
separating a vapor from the heated discharge slurry in a separator.

38. (previously presented) The process of claim 37, comprising maintaining the solids concentration of the slurry in the reactor at 40 weight percent or greater.

39. (previously presented) The process of claim 37, comprising maintaining the solids concentration of the discharge slurry as it is withdrawn from the reactor at 50 weight percent or greater.

40. (previously presented) The process of claim 37, wherein the separator comprises a flash drum.

41. (previously presented) The process of claim 37, wherein the separator comprises a cyclone.

42. (previously presented) The process of claim 37, comprising condensing the separator vapor without compressing the separator vapor.